

REMARKS

The Title has been changed as suggested by the Examiner such that it is now more descriptive of the claimed invention.

The claims have been amended to more clearly define the invention as disclosed in the written description. In particular, claims 1, 10, 15, 21 and 23 has been amended for clarity.

The Examiner has rejected claims 1, 3, 5-8, 10-17, 19-23 and 25-28 under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 5,7674,357 to Hoffberg et al. The Examiner has further rejected claims 10, 15, 18, 21 and 24 under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 5,437,050 to Lamb et al. In addition, the Examiner has rejected claims 2 and 4 under 35 U.S.C. 103(a) as being unpatentable over Hoffberg et al. in view of U.S. Patent 4,694,490 to Harvey. Finally, the Examiner has rejected claim 9 under 35 U.S.C. 103(a) as being unpatentable over Hoffberg et al. in view of the article "Classification of General Audio Data for Content-based Retrieval" by Dongge Li et al.

The Hoffberg et al. patent discloses a human factored interface incorporating adaptive pattern recognition based controller apparatus in which, in one embodiment, a plurality of tuners 2502 are connected to a video signal source 2501. Intermediate storage units 2503 are coupled to the outputs of the tuners and apply their outputs to a control 2504. The control then analyzes the stored signals, extracts various features from the

stored video signals and forms an extracted feature storage matrix. Based on this matrix and a user profile, the control 2504 selectively transfers appropriate ones of the stored video signals to a plant 2507 which includes a permanent storage device.

The subject invention concerns an audio recorder-player which automatically detects audio signal characteristics of a plurality of applied audio signals and selects the appropriate audio signals based on the preferences of the user.

It is well founded that "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

The subject invention specifically claims in claim 1 "means for storing both the first and second audio signals and the first and second audio signal characteristics" while claim 10 specifically claims "a memory that stores the R x N audio signal characteristics". Applicants submit that this feature is neither disclosed nor suggested by Hoffberg et al.

The Examiner has indicated that Hoffberg et al. discloses "a memory that store the signal characteristics [see Fig. 25, item 2503, and their description especially at column 68, lines 23-28, of storing the extracted feature storage matrix of the recognition and characterization process]".

Applicants submit that the Examiner is mistaken. In particular, item 2503 is an intermediate memory and acts as a buffer to the output from each tuner. There is no disclosure that the extracted characteristics are stored in this memory. Further, and more particularly, there is no disclosure in Hoffberg et al. that the extracted audio signal characteristics are stored with the associated audio signal.

The Lamb et al. patent discloses a method and apparatus for recognizing broadcast information using multi-frequency magnitude detection, in which the outputs from a plurality of audio signal sources 40 are applied to respective audio recorders 50. In addition, these outputs are also applied to respective activity recorders 55.

The Examiner equates the analyzer of claim 10 to the activity recorders 55 of Lamb et al., referring particularly to col. 5, lines 26-29.

Applicants submit that the Examiner is mistaken. In particular, claim 10 states "an analyzer that extracts $R \times N$ audio signal characteristics from the N audio signals, said audio signal characteristics including tempo, tone, and energy for music, and words extracted from speech". According to Lamb et al., the audio recorders 50 each comprises "a digital signal processor and converts one of the respective four audio signals 40a-d into a compressed digital audio stream, hereinafter referred to as digital

audio input (that can be played back for humans)" (col. 5, lines 19-23). The digital audio input may then be stored on hard disk 45. "Each of the four activity recorders 55a-d comprises a C25 digital signal processor and converts one the four audio signals 40a-d into a coded form, hereinafter referred to as activity matrix input" (col. 5, lines 26-29), which may also be stored on the hard disk.

Hence, Applicants submit that Lamb et al. neither shows nor suggests "an analyzer...", nor "a memory that stores the R x N audio signal characteristics" as specifically claimed in claim 10.

The Harvey et al. patent discloses signal processing apparatus and methods which arguably discloses the inclusion of an audio recorder-player in a radio and/or set-top box. However, Applicants submit that Harvey et al. does not disclose that which is missing from Hoffberg et al., i.e., "means for storing both the first and second audio signals and the first and second audio signal characteristics".

The Dongge Li et al. article arguably discloses that audio characteristics including "silence, single speaker speech, music, environmental noise, multiple speakers' speech, simultaneous speech and music, and speech and noise" were known to artisans at the time of the invention. However, Applicants submit that Dongge Li et al. does not disclose that which is missing from Hoffberg et al., i.e., "means for storing both the first and second audio signals and the first and second audio signal characteristics".

In view of the above, Applicants believe that the subject invention, as claimed, is neither anticipated nor rendered obvious by the prior art, either individually or collectively, and as such, is patentable thereover.

Applicants believe that this application, containing claims 1-28, is now in condition for allowance and such action is respectfully requested.

Respectfully submitted,

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